

Freshwater Fisheries Monthly Report – March 2018

Stock Assessment

Spiker Run - The U.S. Environmental Protection Agency listed a nonpoint source success story for Spiker Run, a tributary to Casselman River in Garrett County. The report states that Spiker Run was impacted by episodic low pH associated with acid mine drainage and therefore was listed as impaired in 1996. An assessment of an acid mine drainage seep impacting the headwaters of Spiker Run ranked this stream as a high priority for mitigation in the Casselman River watershed. Successful implementation of two acid mine drainage mitigation measures brought the stream into compliance with Maryland's Water Quality Standard for pH. Monitoring of brook trout demonstrated that the adult trout standing crop increased five-fold after implementation of the pH treatment projects. The Maryland Department of the Environment will pursue delisting Spiker Run for its pH impairment in Maryland's 2018 Integrated Report.



Spiker Run in Garrett County

Upper Potomac River Walleye - Staff conducted annual spring walleye surveys on the upper Potomac River. Roughly two dozen adult walleye were collected and transported to Cedarville State Fish Hatchery to serve as brood stock for walleye juvenile production. These juvenile fish will be stocked later this spring into impoundments and major rivers across the state. A recent four-year study of walleye stocking on the upper Potomac River found that 50 percent of young-of-year fish collected in fall electrofishing surveys were hatchery produced fish. The supplemental stocking of juvenile walleye significantly contributes to overall year class strength and helps maintain this productive fishery.



Adult walleye collected from upper Potomac River

Upper Potomac River Muskellunge - Staff continued efforts to monitor and study the muskellunge population in the upper Potomac River. Expanding upon work from 2017, a new radio telemetry project was initiated in sections of the upper Potomac River below Dam 5 and Dam 4. Using funding received from a research grant from the angling organization Muskies Inc., Freshwater Fisheries was able to purchase 22 radio tags. These tags have been surgically implanted into adult muskellunge as part of a two-year study to determine seasonal movement patterns, habitat use, and mortality. Information from this research will help in the management of the Potomac River population and add to our understanding of this species at the southern extent of its distribution range. The radio tagged muskellunge are further identified by two external dart tags located under the dorsal fin on the left side. Anglers that catch these fish are asked to report the catch to staff at 301-898-5443 or josh.henesy@maryland.gov



Electrofishing to collect muskellunge



Tagged muskellunge ready for release

Conowingo Reservoir Walleye - There is a popular fishery for walleye in the Susquehanna River below Conowingo Reservoir. In 2017, staff began a study to better understand and manage this resource. More than 50 walleye were collected from the Conowingo Dam east fish lift in 2017. Length, weight and sex of each fish were recorded, and their otoliths were removed to determine age. Initial ageing results completed this month show quick initial growth, reaching legal size (15 inches) in their second or third year of life. Further work is planned this spring to better characterize this population.

Habitat and Water Quality

Environmental Review - Provided aquatic resource information for environmental review projects including:

- A State Highway Administration project that will construct a stormwater facility along Maryland Route 39 in Crellin. The project is designed to collect stormwater that would otherwise drain into the Youghiogheny River. This project should provide water quality benefits by collecting and infiltrating stormwater runoff before entering the river. Comments were made regarding time of year restriction and use of best management practices for sediment and erosion during construction.
- Savage River State Forest's proposed timber harvest within the Winebrenner Run sub-basin of the Georges Creek watershed. The proposal provides stream protection with a no-cut buffer along the headwater area of the stream. Brook trout were reintroduced into Winebrenner Run a few years ago, and now the stream supports a reproducing population.
- Maryland Department of the Environment's review regarding the status of fish populations in Tarkiln Run, a Casselman River tributary stream. Maryland Department of the Environment has been liming the stream to alleviate acid conditions and water quality has improved. Previous sampling by the department indicated the stream was fishless; the department will survey the stream in 2018 to see if fish have re-colonized as the water quality has improved.
- State Forest ID Team regarding rare dragonfly research in high elevation wetlands by Frostburg State University researchers. The researchers will collect water quality data in February (when pH may be the lowest) and throughout the summer as well as assess the presence of fishes. The presence of large insectivorous fish is one of the strongest factors affecting dragonfly communities. The department provided comments on Bull Glade Run and Murley Run, as these two acidic streams are currently fishless based on previous sampling. The Salting Grounds impoundment (in the Herrington Creek watershed) may support creek chub, as we documented this species (as well as white sucker and mottled sculpin) in the stream below the impoundment in 2015.
- Staff provided brook trout population study data for a presentation at the Environmental Protection Agency's Region III Association of Mid-Atlantic Aquatic Biologists conference. Maryland Department of the Environment staff will present water quality and biotic community improvements in the Casselman River Watershed at the conference with a presentation entitled "Restoring Water Quality and Aquatic Biology in the Casselman River."

- Eastern Regional Freshwater Fisheries staff provided written comments on six environmental reviews and five potential Department of Natural Resources property acquisitions.

Land Stewardship Committee - Provided comments regarding a potential land acquisition in the Evitts Creek watershed. This property contains portions of Evitts Creek and its tributary stream Bottle Run. Evitts Creek is a Maryland Department of the Environment Designated Use-IV-P stream, and is managed as a recreational trout fishery, receiving 7,300 rainbow trout annually. Further, Evitts Creek supports a diverse fish species community including American eel, Blue Ridge sculpin, two catfish species, three darter species, 13 minnow species, four sucker species and six sunfish species. Bottle Run is a very important coldwater stream (Use-III) in Allegany County, supporting a reproducing brook trout population as well as a wild rainbow trout population. Blacknose dace, Blue Ridge sculpin and fantail darter are also found in Bottle Run. The Freshwater Fisheries Program fully supports this acquisition as it would provide long-term water quality and stream habitat protection in the Evitts Creek watershed. Bottle Run is one of the relatively few streams in Allegany County supporting a reproducing population of native brook trout. One of the major goals in the 2006 Maryland Department of Natural Resources Brook Trout Fishery Management Plan is to increase public ownership of lands within watersheds supporting brook trout populations to ensure long-term protection of this species.

GIS Mapping - Completed the 2016 and 2017 GIS mapping layer that shows the extent and composition of submerged aquatic vegetation (SAV) in the tidal freshwater portion of the Potomac River. These layers can be very useful for anglers fishing SAV in the Potomac River and will also serve as a basis for future comparisons of SAV bed health in the region.

Stocking and Population Management

Staff assisted Albert Powell and Unicorn state hatchery personnel with statewide stocking of rainbow/golden and brown trout into streams and impoundments gearing up for opening day on March 31. This comes to the delight of countless anglers in the region that view the annual stocking as the unofficial start of the fishing season. Due to the early spring snow storm, some scheduling had to be rearranged to assure trout were stocked for the opening day. Volunteers assisted the department with float stocking the [new delayed harvest area](#) on the South Branch Patapsco River. Because of limited stocking access, trout are loaded into floating boxes and distributed throughout the mile-long special regulation area.



Stocking trout in the South Branch Patapsco River Delayed Harvest Area

Outreach

Cove Run Restoration - Staff along with Northern Garrett High School Envirothon Team conducted a field visit to the Cove Run Brook Trout Restoration Project site. The riparian zone of the stream was planted six years ago, and the trees and shrubs have grown extremely well providing shade for the stream. The students cleaned out bluebird nesting boxes that were placed on the fencing posts as part of the project.



Bluebird nest box maintenance along the well-established vegetated riparian zone along Cove Run

Population Surveys - Staff prepared current summaries of fish population surveys for the Savage River Trophy Trout Fishing Areas, the Youghiogheny River Catch and Return Trout Fishing Area, Deep Creek Lake, New Germany Lake and Piney Reservoir. These report summaries will be uploaded to the Freshwater Fisheries Program website.

Customer Service - Staff responded to many customer service calls regarding: Battie Mixon Fishing Rodeo fish stocking application; brook trout fishing in western Maryland; carp fishing and statewide management; Deep Creek Lake boat launch opening; pike fishing in Deep Creek Lake; put-and-take trout fishing opportunities and Savage River

Trophy Trout Fishing Area; a new South Branch Patapsco River Delayed Harvest Trout Fishing Area and walleye and muskellunge fishing opportunities in the nontidal Potomac River.

Signage - Staff posted new regulation and closures signs statewide in preparation for trout season. New tidal black bass signs were posted where needed. Informational signs were posted at popular trout fishing areas to educate and encourage anglers to clean wading gear to reduce the potential spread of invasive species.



Envirothon - Provided aquatic ecology training for high school students from Anne Arundel and Frederick counties participating in the Envirothon, an environmental education competition. Staff provided training on habitat and water quality, largemouth bass anatomy and physiology and macroinvertebrate taxonomy.

Angler Access

Staff met with a willing seller of property along the North Branch Potomac River. The property borders about 0.75 miles of the Zero Creel Limit of Trout Fishing Area. The potential acquisition is being evaluated for public angler access and riparian zone protection.

Invasive Species

Staff participated in drafting a recommendation for handling invasive species (northern snakehead, blue catfish) that could be passed in the Conowingo Fish Lift from lower Susquehanna River to Conowingo Reservoir.

Staff participated in the non-indigenous species symposium held at the Southern Division of American Fisheries Society meeting. The symposium provided information on current research and threats of blue catfish and northern snakehead in adjacent and distant states to Maryland.

Northern Snakehead - Staff participated in the annual Northern Snakehead Taskforce meeting with U.S. Fish and Wildlife Service, U.S. Geological Survey, Virginia Department Game and Inland Fisheries, Delaware Department of Natural Resources and Environmental Control and District of Columbia's Fisheries Division. Current data collected by these agencies was presented. Northern snakeheads have increased in density in those areas where they have become established. The species has consistently expanded its range since they were first found in the Potomac River in 2004. Northern snakeheads are now found in most areas of the upper Chesapeake Bay (e.g., Susquehanna River, Susquehanna Flats and Northeast River), the Potomac River, Patuxent River and many eastern shore rivers.

Staff discussed opportunities for coordinating an outreach and fishing derby event at Blackwater National Wildlife Refuge in partnership with U.S. Fish and Wildlife Service. The objectives of the derby would be to remove northern snakehead, encourage harvest and raise awareness.

Blue Catfish - Biologists collected specimens of the invasive blue catfish from two tidal tributaries of the Potomac River in Charles County (Mattawoman Creek, Nanjemoy Creek). In addition to basic life history information (e.g., size, sex, otoliths for aging work), biologists examined the stomachs of nearly 75 fish up to 24.5 pounds. Many had empty stomachs but for those with stomach contents, common food items were adult yellow perch, white perch, and crayfish. A small number of fish had also recently eaten juvenile northern snakehead, another invasive species common to the Potomac River and now the Chesapeake Bay drainage. For a subset of individuals with stomach contents too digested to be identified, samples of stomach material were preserved for metabarcoding analysis to identify those food items. This work is part of a collaborative project with the United States Geological Survey's National Fish Health Research Laboratory to better understand the diet and potential ecological effects of blue catfish in the Potomac River.

A commercial angler recently reported catching a tagged blue catfish from the Potomac River. The fish was at-large for 1,698 days before it was harvested. It was tagged as part of a project to determine movements of these invasive fish in the Potomac River. A pin and letter detailing the fish's history were sent to the angler.

Brook Trout Program

Staff participated in the quarterly Eastern Brook Trout Joint Venture steering committee conference call. Topics discussed included dispensation of Eastern Brook Trout Joint Venture restoration funds for 2018, the brook trout symposium at the American Fisheries Society meeting in the fall of 2018 (staff are presenting papers and participating in a symposium), and future genetics work and direction needs for eastern brook trout nationally.

Staff participated in a field visit to review proposed activities associated with the installation of a new gas line along the east side of Dan's Mountain in Allegany County. The proposed activities involved the crossing of two known brook trout streams.

Discussions included potential impacts and how to avoid those impacts to brook trout resources.

Staff distributed fliers to all public schools in Garrett and Allegany counties to begin registration for the Third Annual Big Run Youth Trout Fishing Clinic. This has been a very popular event the past two years where kids between the ages of 8 and 16 are invited to learn how to fish for wild brook trout. The event is hosted and run by staff of the Freshwater Fisheries Program, with donations and support from local (Martins grocery, Weis grocery, Wal-Mart, Bassin' Box, Bill's Outdoor Center and Early Rise Fly Shop) and national merchants (Bass Pro Shops and Orvis) and assistance from local angling groups (Nemacolin Chapter of Trout Unlimited).

Staff gave an update to the Nemacolin Chapter of Trout Unlimited on the status of a proposed restoration project on a tributary to Poplar Lick, a premier native brook trout resource in Garrett County.

Tidal Bass Program

Staff presented a poster highlighting Maryland's bass fisheries and a paper at the Southern Division meeting for the American Fisheries Society in Puerto Rico. During the meeting, staff also participated with a workshop designed to standardize boat electrofishing during fish surveys. Staff also aided in beach restoration work that included shoveling sand dunes, planting sea grape (a shoreline plant species), and cleaning marine trash from a beach that is often visited by reproducing sea turtles.

Staff co-hosted and participated in a webinar event for black bass tournament directors. Over 100 directors were invited to participate in the webinar that included information on the status of black bass fisheries in Maryland, rules for tournaments, and offered a general forum for discussion of concerns. PowerPoint slides and a recording of the webinar are available on-line via Chester County Bassmasters Facebook page.

Staff participated in a planning workshop for Harford County's Bassmaster Elite Series. Staff visited Harford County's Office of Tourism to coordinate details regarding promotion, assistance and other factors that will stimulate tourism for this event held at Flying Point Park and Cal Ripken's Stadium July 26 – 29, 2018.

Staff coordinated the release of the Black Bass Annual Review (Volume X) and a press release conveying information on the Director of Fishing and Boating Services' new Black Bass Conservation Award ([here](#)).

Staff received the Secretary's Customer Service Award from the Assistant Secretary and Deputy Secretary.

Staff released finalized version of a publication in the department's Maryland Natural Resource Magazine. The article promotes black bass tournaments in Maryland and highlights the newest inclusions of social media during on-the-water weigh-ins.